

Figure 20. Future Temperature Scenarios (NU Figure 8)

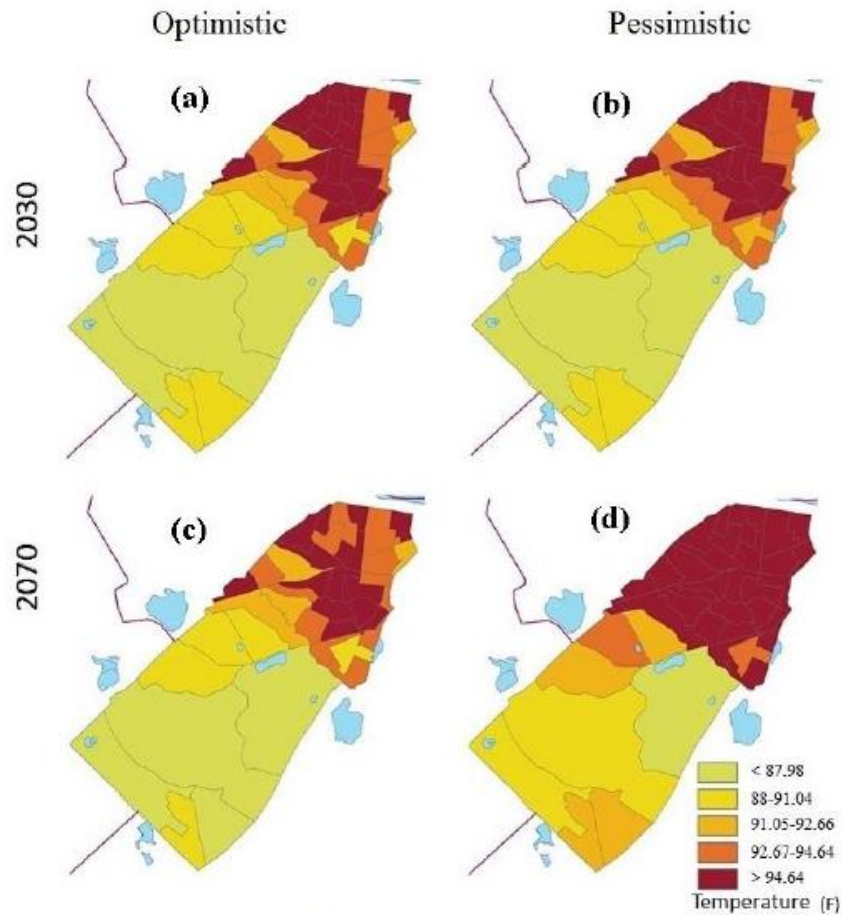


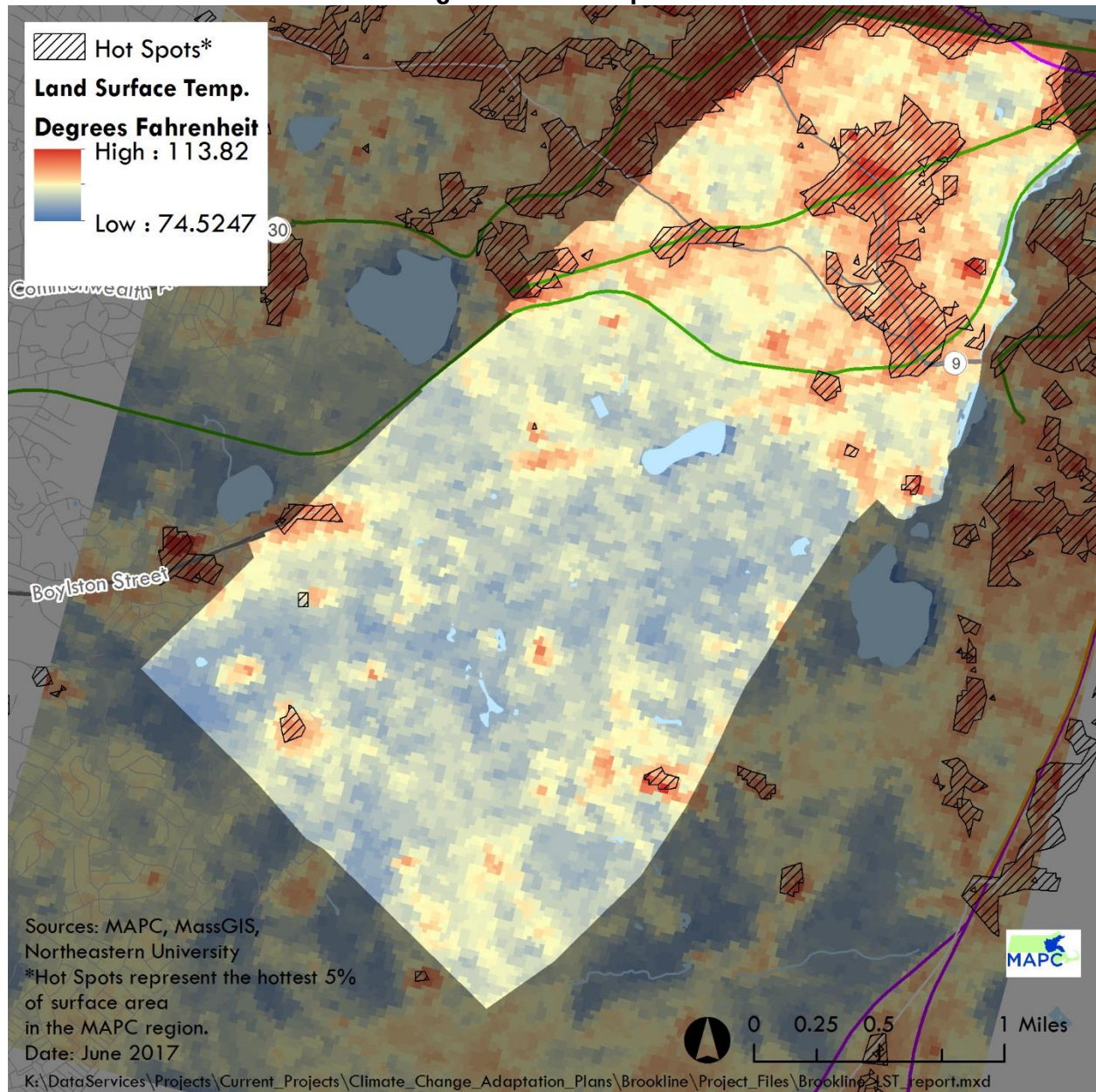
Figure 8. Changes in LST levels for the optimistic (Left side) and pessimistic (Right side) climate change scenarios for 2030s and 2070s.

MAPC utilized land surface temperature data provided by Northeastern University to further analyze potential heat impacts. Figure 21, displays land surface temperature derived from satellite imagery, showing land temperatures on June 27, 2007, when the high temperature at Logan Airport was 96 degrees (F). It is important to note that air temperature just several feet above the ground differs from ground temperature. The range of land surface temperatures is much greater than that of air temperatures. Dark pavement can attain temperatures far higher than the air temperature several feet above the ground. In contrast, vegetation or water can be much cooler than air temperatures. Thus the air temperature people experience will not be as hot as the hottest temperatures shown, nor as cool as the coolest areas shown.

Figure 21 identifies “hot spots”, that is, locations that are included in the hottest 5% of land area in the MAPC region. The largest hot spot area includes commercial, but also significant residential areas, along Harvard Street from Brookline Village past Coolidge Corner and along Beacon Street, east and west of Coolidge Corner. Other hot spots are primarily commercial areas along Commonwealth Avenue, Boylston, and Beacon Streets. **Of note, turf fields, including Downes and**

Parsons Fields, and the fields at Beaver Country Day School and Skyline Park all show up as hot spots.

Figure 21. Heat Impacts



Land Surface Temperature on June 27, 2007, when high temperature at Logan Airport was 96 degrees Fahrenheit.

Figure 22, and the accompanying Table 3, identify critical facilities from the Brookline Hazard Mitigation Plan and from MassGIS, in hot spot locations.